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Full Length Research Paper

A study of the attitude of people in Nigerian urban areas towards the prevention, treatment and management of malaria

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This study investigates the basic factors responsible for human-mosquito interaction, attitudinal consequences of malaria treatment pattern and management strategies in an urban center. Questionnaires were issued to the volunteers whose age range between 15 and 40 years which constitute 44.5% males and 55.5% females. These include questions about knowledge of mosquito, prevention practices, treatment methods and illness management strategies. Focus group discussion was also used to interview the participants. Preventive measures adopted against mosquito bite include sleeping under net (treated and untreated) 17 (4.2%), door and window screening 37 (9.2%), cover cloth 55 (13.8%), mosquito repellant/insecticides spray 39 (9.8%), environmental hygiene 26 (6.5%), herbal decoction 26 (6.5%), and chemoprophylaxis 45 (11.3%). There was a significant difference between those that prevent malaria with chemoprophylaxis and other methods. Self treatment (medication) accounted for 267 (66.8%) as against hospital treatment 93 (23.3%). Most of the patients 55 (13.8%) demanded for injections as against 42 (10.5%) those who showed preference for oral medication. The hospitalized patients accounted for 40 (10.0%) while outpatients were 93 (23.3%). Late diagnosis, wrong medications, incomplete doses, lack of knowledge about malaria episode and anopheles mosquitoes as malaria vector are some of the factors militating against prevention and proper management of the illness.

Keywords: Attitudes, malaria, prevention, treatment, management, urban.

INTRODUCTION

Malaria has been implicated globally as one of the main cause of human health and socioeconomic burden (Gilles, 1999). It affects about 300 to 500 million people yearly all over the world. In tropical African countries, the parasite infection exacts enormous tolls on lives, medical costs and days of labour lost. In Nigeria, malaria is responsible for about 300,000 deaths every year and about 30% of this occurs in children mostly under the age of five years (Coker et al., 2001, WHO, 2003a).

In malaria endemic areas, factors such as poverty, poor socioeconomic status, poor education, lack of enlightenment and poor environmental sanitation have been attributed to availability of mosquito-friendly environmental conditions which allow for survival and proliferation of the vector and pathogenic parasite (Coker et al., 2001). Also, the emergence and rapid spread of resistance both of vector-mosquitoes to insecticides and of pathogenic plasmodia to antimalarial drugs are other causes of severe disease and death from malaria in the affected areas. Hence, the degree and extent of malaria impact on the clinical, social and economic conditions of people living in the endemic area cut across all age groups and social classes. The present estimation of clinical malaria episodes range between 350 and 650 million annually (Snow et al., 2005; WHO, 2005).

Research findings have shown that environmental, behavioral and socio-economic factors are associated with ability to avoid mosquitoes and prevention of malaria attack (Macintyre et al., 2002) . The wealthy and educated households often live in clean environment and are able

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Table 1. Mosquito-bite avoidance strategies.

Preventive measures %	No of individuals involved	
Untreated bed net	12	3.0
Insecticide treated bed net	5	1.2
Door/window Screen	37	9.2
Mosquito repellant (e. g coil)	15	3.8
Cover cloth	55	13.8
Environmental Sanitation (e. g. cleaning of drainage)	85	21.2
Using of fan	96	24.0
Insecticide Spray	24	6.0
Herbal décoction	26	6.5
Chemoprophylaxis (e.g. Fansidar® and Maloxine®)	45	11.3
Total	400	100

to afford better mosquito-bite preventive measures, and good medical attention when afflicted with malaria. While the major victims are usually the poor, less privileged and economic downtrodden people who often have no access to clean environment, and most of times have no means of acquiring better mosquito-bite preventive measures and no access to modern treatment.

Some of these conditions may greatly influence their knowledge and attitudes towards handling of malaria episode. Hence, it is the cardinal objective of this investigation to study the attitudes of a cross-section of people in the urban suburb area of Nigeria towards prevention, treatment and management of malaria. The results obtained may be used by both the professional and community health educators as a baseline to intensify a community based programme activities with regards to the health needs related to the socio-economic status of the inhabitants.

MATERIALS AND METHOD

Study site

This study was carried out in Ibadan the capital of Oyo state in southwestern Nigeria. This region is holoendemic for mala-ria. Agbowo, a large community located in a suburb area of Ibadan was selected for the investigation of the people attitudes associated with prevalence of malaria in the urban areas. Agbowo comprises of people from all walks of life and is predominantly surrounded with peculiar environmental conditions which most likely contribute to human- mosquito contact and which may invariably influence urban malaria transmission.

Ethical consideration and recruitment of participants

The human use protocol for this study was approved by the ethical committee of the College of Medicine, University College Hospital, and Ibadan, Nigeria. A total of 400 subjects were recruited through the administration of questionnaires after obtaining their consent. A focus groups discussion (FGDS) was also employed to elicit more information from the participants concerning their attitudes towards prevention, treatment and management of malaria.

Data analysis

The analysis of the data collected was done with Epinfo- 6 Software. This was presented at 0.05 level of confidence using chi-square test with Microsoft Excel 2000 and SPSS 9.0 software packages.

RESULTS AND DISCUSSION

The knowledge, attitudes and practices about malaria transmission associated with avoidance of mosquitoes, treatment pattern and management strategies among typical urban dwellers were investigated in this study. Reports on the methods adopted in preventing mosquito bite are summarized in Table 1. Only 5 (1.2%) of the volunteers used insecticide treated bed net. The reason for this low patronage was not actually investigated but it may not be unconnected with the level of awareness, availability and affordability (Macintyre et al., 2002; Olayemi et al., 2003). Larger percentage 85 (21.2%) adopted the method of environmental sanitation such as bush clearing, drainage and gutter control in preventing mosquito-breeding sites (Table 1). This shows that most of the study population is knowledgeable about the causes of malaria and its vector ecology.

Vector-borne diseases (malaria inclusive) have been attributed to a range of environmental conditions and factors, including polluted and standing water, open sewers, and certain types of sanitation, clogged storm drains and floods (Lvovsky, 2002) . It was also observed that about 200 (66.6%) of the participants adopted multiple mosquito protection measures. This result may also indicate the levels of awareness and enlightenments concerning malaria transmission pattern. Aygepong and Manderson (1999) reported that knowledge of malaria was not necessary prerequisite for mosquito-avoidance behavior, while Macintyre et al. (2002) also found that many inhabitants are actively trying to avoid being bitten even if knowledge of how malaria is transmitted is incorrect or lacking. Natural remedies had the lowest patronage (6.5%) (Table 1). Although herbal medicine has been shown to have genuine utility, it seems that

Table 2. Summary of the treatment pattern within the study population.

Treatment	Medication	No. of cases	% of Mean response	
			Positive	Negative
Self		**267**		
	Orthodox	213	37.5	15.5
	Herbal decoction	54	7.5	6.0
Hospital (outpatient)		**93**		
Private	Tablets	14	2.2	1.2
	Injection	17	2.5	1.8
	Drip	14	3.0	0.5
Public	Tablets	15	2.3	1.4
	Injection	23	4.8	1.0
	Drip	10	1.8	0.8
Hospitalized		**40**		
Private	Tablets	4	0.8	0.2
	Injection	4	0.8	0.2
	Drip	5	1.0	0.2
Public	Tablets	9	1.5	0.8
	Injection	11	1.8	1.0
	Drip	7	1.5	0.2
Total		400	69.0	31.0

Positive response represents a YES answer to the question asked the respondent.
Negative response represents a NO answer to the question asked the respondent.

only people who are unable to afford modern medical services really depend on it to manage diseases (Masaba, 2000; Malhotra and Singh, 2002). There was a significant difference between those that prevent malaria with chemoprophylaxis and other methods (Table 1). According to Marsh (2002), the key to reducing malaria deaths is prevention of infection and this is usually partial, since it could be very difficult to prevent mosquito bite. However, the use of preventive drugs to inhibit the parasite from invading the red blood cells is a better surety for prevention (Smyth, 1996: Marsh, 2002).

About 66.75% of the volunteers were involved in self medication syndrome while 78.5% visited hospital for treatment (Table 2). Self medication with antimalarias has been reported to be a common practice in many endemic areas worldwide (Foster, 1995). This may likely have a financial undertone as well as availability and affordability of sorts of antimalarias in drug stores (Mnyika et al., 1995). Cultural and social factors have been reported to influence treatment- seeking behavior (Abdel-Hammed 2001a). Most of the patients 93 (23.3%) (Table 2) preferred public hospitals since this was claimed to be cheaper. About 55 (13.8%) of the participants demanded for injections while only 42 (10.5%) preferred oral medications (Table 2). This is because people often assumed that injections are more effective than oral medications (Reubush et al., 1995).

About 10% of the participants were hospitalized due to malaria attack while up to 23.3% were outpatients. Those hospitalized might be victims of treatment failure as a result of inadequate dose and inappropriate drugs or those that failed to diagnose the illness early before complications occurred (Abdel -Hameed, 2001b). This also has implications for malaria management. It was deduced from the participant's response that wrong medication, incomplete doses, late or improper diagnosis, pricing and availability of genuine antimalarias are some of the factors militating against proper management of the illness and in most cases responsible for relapses and recrudescence of the infection. According to Abdel-Hameed (2001b) early diagnosis and treatment of malaria is well recognized as a strategy for reducing morbidity and mortality of the disease.

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